

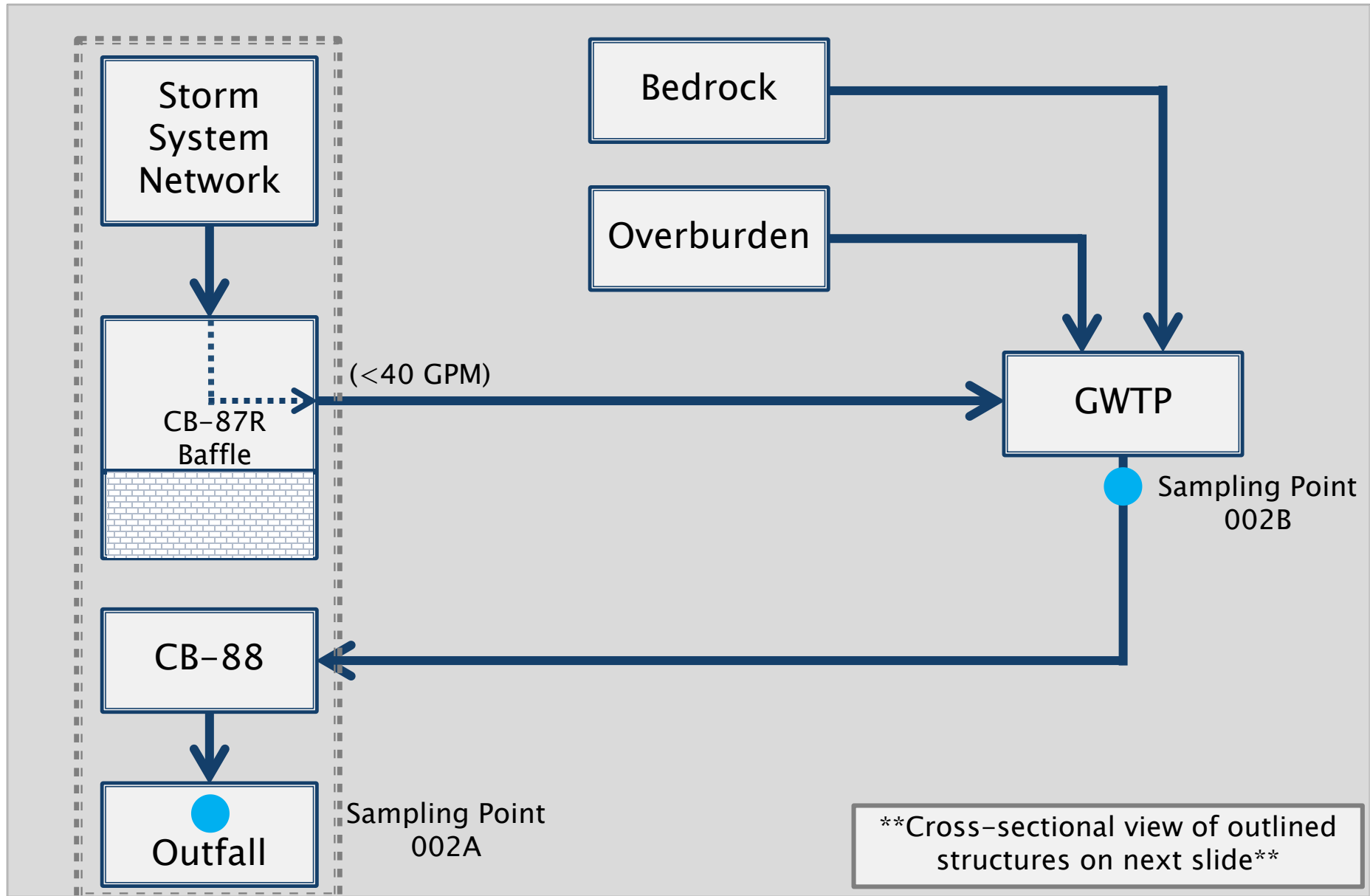
# Attleboro Site –NPDES Outfall 002A Exceedances

Texas Instruments

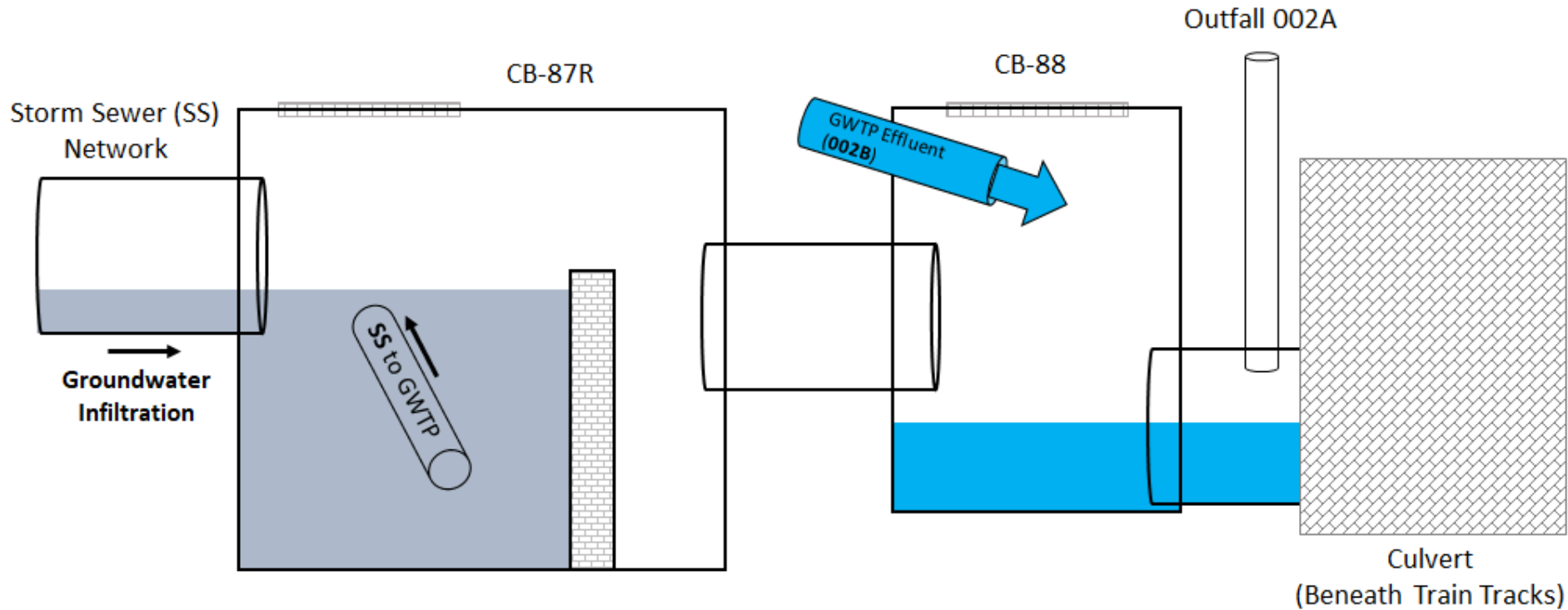
# Under Normal Operating Conditions

- ▶ Treating Bedrock, Overburden, Groundwater Infiltration (GWI) at Groundwater Treatment Plant (GWTP)
  - 40 gpm is representative of full capture of contaminated groundwater infiltrating the storm sewer during dry weather conditions
- ▶ Treated water from GWTP exits 002B (below permit limits) and goes to 002A
- ▶ No exceedances at 002A

# Under Normal Operating Conditions



# Under Normal Operating Conditions



**GWTP** = Groundwater Treatment Plant

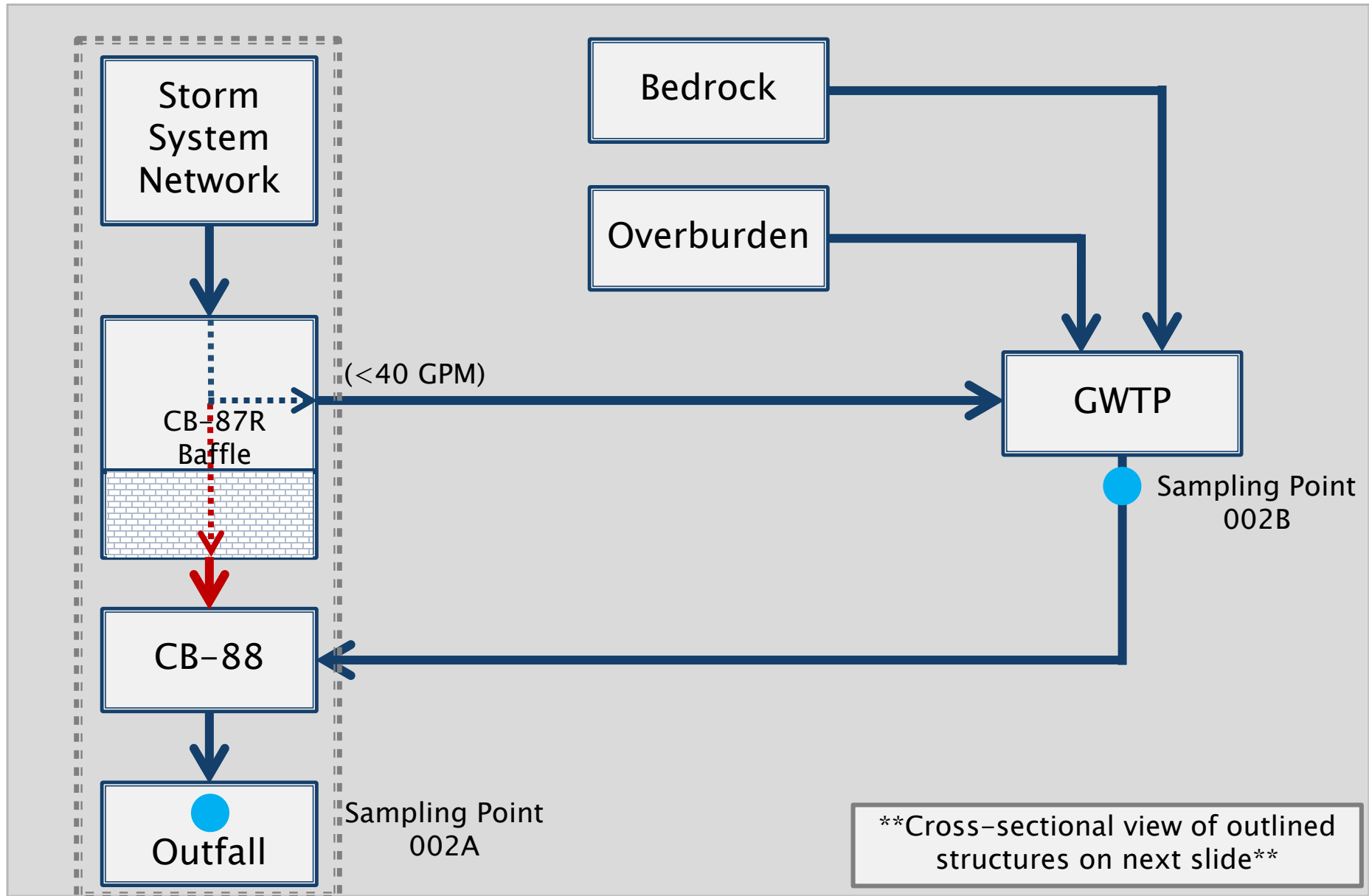
# Under Storm Conditions

- ▶ Treating water from Bedrock, Overburden, Groundwater Infiltration (GWI), and Site Runoff
- ▶ Site runoff enters sewer and mixes with infiltrated contaminated groundwater
  - Flow above 40 gpm not captured
  - Mixed flow going over the baffle can contain TCE above permit limits and goes to 002A without being treated
    - Site runoff does not dilute GWI enough to be below permit limits which leads to exceedances

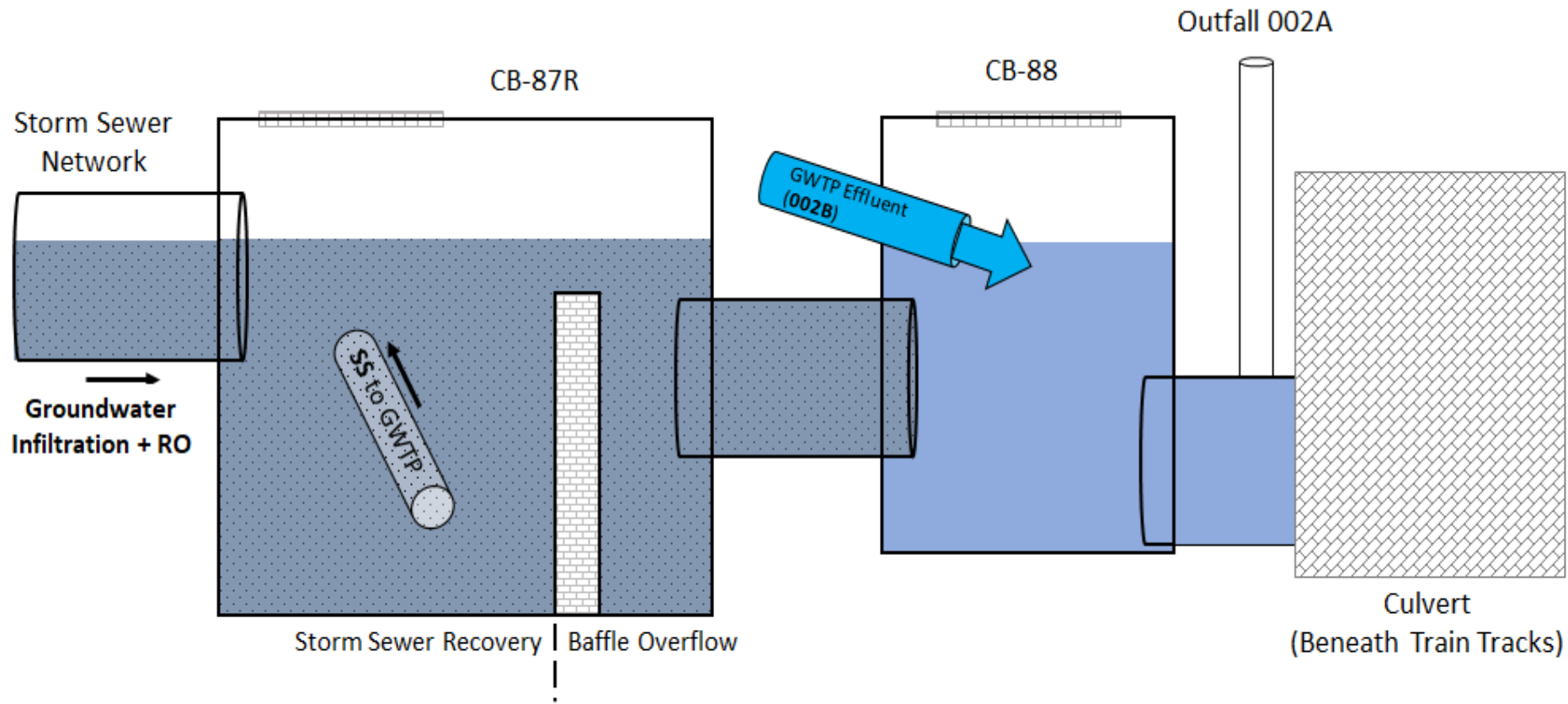
# Under Storm Conditions (continued)

- ▶ System baffle causes runoff from storm events to accumulate or retained upstream
- ▶ The accumulated runoff can take longer than 48 hours to completely dissipate and the collection system return to normal operating (permit) conditions

# Under Storm Conditions



# Under Storm Conditions



**RO** = Runoff  
**SS** = Storm Sewer Influent to GWTP



# Storm Sewer Flow & Outfall Exceedances

	Flow Recovered (gpm)	Flow Over Baffle (gpm)	002A Outfall TCE Conc. (ppb)
June 2020	38	0	2.3
October 2018	43	3.9	7.6
August 2018	32	6	10
January 2019	49.6	8–28	18
April 2019	44.6	22–30	39

- ▶ TCE permit exceedances seen at 002A when storm events cause site runoff to enter storm sewer collection system and cause untreated water to go over the baffle wall

# NPDES Permit (MA0001791)

- ▶ “...Such discharges shall be limited and monitored by the permittee as specified below and apply during dry weather conditions, defined as any time when there is no precipitation and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude.”
- ▶ In months of high precipitation 48 hours might not be enough for the system to return to normal operating conditions and get a representative sample during a calendar month

# Proposed Solution

- ▶ Include clause in new NPDES permit that extends the 48 hour wait time to apply when normal operating conditions cannot be achieved in a given month due to extended storm conditions (including subsequent runoff) greater than 0.1 inches that prevent representative sampling during dry weather conditions